



Department of Energy
Idaho Operations Office
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October 15, 2002

Mr. Wayne Pierre, Team Leader
Environmental Cleanup Office
U.S. Environmental Protection Agency
Region X
1200 Sixth Avenue
Seattle, Washington 98101

Mr. Dean Nygard, Site Remediation Manager
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, Idaho 83706

SUBJECT: Curtailment of Groundwater Treatment Facility Daily Inspections (EM-ER-02-173)

Reference: Kathleen E. Hain letter to Dean Nygard and Wayne Pierre, Curtailment of Daily Inspections of the Test Area North Air Stripper Treatment Unit and the Groundwater Treatment Facility, July 2001

Dear Mr. Pierre and Mr. Nygard:

The referenced letter lists the actions required to allow curtailment of daily inspections of the Groundwater Treatment Facility (GWTF). The required actions are:

- Empty the resin columns.
- Recirculate potable water through tanks T-2 and T-3 until all residual solids are removed. Process and inject this water into the GWTF injection well, TAN-31.
- Remove all bag filters.
- Remove sand and gravel from the multimedia filter.
- Flush all tanks and piping with potable water.
- Sample the effluent from tank T-2 (SP-4) for trichloroethene (TCE) and analyze for TCE concentrations using the Solid Phase Micro Extraction (SPME) method. If the TCE concentration is less than 5 µg/L then it will be determined that the hazardous waste has been removed from the tanks and piping system.
- Repeat system flushes as needed until the concentration of TCE in the GWTF effluent is less than 5 µg/L.
- Empty the carbon beds.

The actions listed above have been completed. As agreed to in the referenced letter, the GWTF effluent was analyzed using the SPME method. The concentration of TCE found in the GWTF effluent was less than the detection limit of 0.9 µg/L. The concentration of TCE found in the rinse water was less than

the specified level of 5 µg/L. For your information, a comparison between historical OU 1-07B analytical results obtained using the SPME method and the EPA 8260B method is attached. Based on the attached historical information and Agency agreements detailed above, daily inspections of the GWTF may be curtailed.

After the above steps were completed, residual water was drained from the GWTF process equipment and piping. As of October 2, 2002, all GWTF process equipment has been deemed non-operational and is being stored within the existing secondary containment until the final disposition is determined. Starting October 25, 2002, GWTF inspections will be done weekly as is currently performed for other OU 1-07B CERCLA waste storage areas. The procedures and checklists used to conduct the OU 1-07B waste storage area inspections will also be used to inspect the GWTF.

If you have any questions regarding this issue please contact Mark Shaw at (208) 526-6442.

Sincerely,

A handwritten signature in black ink, appearing to read "K E Hain", with a small "for" written below it.

Kathleen E. Hain, Manager
Environmental Restoration Program

Attachment

cc: M. Jeffers, DEQ, 1410 N. Hilton, Boise, ID 83706

Comparison Between SPME and EPA 8260B Analytical Results for Chloroethenes.

The Operable Unit (OU) 1-07B program routinely uses the Solid Phase Microextraction Method/gas chromatography-electron capture detector (SPME) method for measuring chloroethene concentrations in groundwater. Split samples are routinely submitted for both SPME and EPA 8260B analysis and compared. The trichloroethene (TCE) concentrations for the past two years of split samples are presented in Table 1 for New Pump and Treat Facility integrated test data and Table 2 for in situ bioremediation (ISB) performance monitoring data. (Refer to the ISB Annual Report for October 1999 to July 2001, INEEL/EXT-2002-00543, Revision 0, for more complete description of the ISB results.)

Table 1. Trichloroethene sample results for SPME vs. EPA 8260B analyses for New Pump and Treat Facility integrated testing.

Sample Date	Sample Location (Air Stripper #)	TCE		Relative Percent Difference (RPD)
		SPME	8260B	
5/1/2001	A311	ND	ND	--
5/1/2001	A310	ND	ND	--
5/8/2001	A310	5.5	4.5	18
5/8/2001	A311	5.6	5.3	5
5/10/2001	A310	5.8	5.5	5
5/16/2001	A310	5.8	5.5	5
5/16/2001	A310	5.3	5.5	4
5/16/2001	A311	3.6	3.9	8
5/16/2001	A311	3.7	3.9	5
7/10/2001	A310	4.6	4.4	4
7/10/2001	A311	3.2	2.9	9
7/10/2001	A311	3.2	2.9	9
7/11/2001	A310	2.9	3.0	3
7/11/2001	A311	3.0	3.0	0
8/7/2001	A310	2.5	4.7	88
8/7/2001	A311	2.5	3.1	24
8/8/2001	A310	4.1	4.9	20
8/8/2001	A311	2.6	3.2	23
Mean RPD				14 ± 21.1

ND = Not detected

Table 2. Mean RPD for SPME vs. EPA 8260B analyses for trichloroethene (TCE) from October 1999 to July 2001.

Chloroethene	Mean RPD for SPME vs. EPA 8260B results
TCE	20.24

The TCE concentrations shown in Table 1 varied from non-detect to 5.5 parts per billion (ppb). This range corresponds to TCE concentrations encountered during rinse out of the Groundwater Treatment Facility (GWTF). The mean relative percent difference between the SPME and the EPA 8260B data is 14%. The data in Table 2 indicate that the RPD for TCE analyses completed in support of ISB performance monitoring was less than 25%. Review of the split data from both NPTF integrated testing and ISB performance monitoring did not reveal any instances where the concentration of TCE exceeded the MCL and was not detected by the SPME method. As a result, these data show that the results obtained by the SPME method are acceptable for the purposes of curtailing GWTF inspection.